

REMARKS

After entry of this Amendment, claims 1-6, 8-18 and 20-22 are pending in the application. Claims 1, 2, 4, 9, and 14 have been amended. Claims 7 and 19 have been cancelled without prejudice. Claims 21 and 22 have been added. Reconsideration of the application as amended is requested.

The drawings stand objected to because reference numeral 16c on page 6, line 24, is missing therefrom. The drawings have been corrected and a marked-up drawing with red ink is being submitted in accordance with MPEP § 608.02(b) for the Examiner's review and consideration.

The specification stands objected to based on several informalities. The Examiner states that, on page 5, lines 6 and 12, "24b" denotes different elements. Applicants' attorney has described 24b as a conical nozzle tip portion or the lower end of the tube member 14. These descriptions are in fact correct and merely refer to the exact same element in a different manner. The specification has been amended to reflect this description. The Examiner states that, on page 6, "18c of the mixer" should be "20c of the air" in line 16; "16b" should be "16" in line 17; and "24c" should be "24d" in line 19. Applicants' attorney has amended the specification accordingly. Reconsideration and withdrawal of the Examiner's objections with respect to these informalities is respectfully requested.

The specification stands objected to as failing to provide proper antecedent basis for the following which were not found in the specification: "tubular nozzle member" set forth in claim 1, "hollow tubular housing" set forth in claims 4, 9 and 14, "non-linear axially extending inner surface" in claim 4, subject matter set forth in claims 5 and 10, "trapping the nozzle insert" in claims 6, 11 and 18, "beveled-angular cut" in claims 8, 13 and 20, and "angular surface" in claim 16. Each one of these elements is shown in the drawings and the specification has been amended to reference this terminology in new paragraph [0034.1]. Reconsideration and withdrawal of this objection is respectfully requested.

The Examiner states that the claim hierarchy does not appear to be in accordance with MPEP § 608.01(m). This statement by the Examiner is not understood by Applicant's Attorney, and the Examiner is requested to further clarify the precise objection to the claim hierarchy being noted by the Examiner. Reconsideration and withdrawal of this objection is respectfully requested.

Claims 4-20 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Miller. Miller states in column 4, line 44-51, that the dispensing needle assembly 40 includes a hollow cylindrical body 41 preferably formed of metal which is molded within the interior of an outer wing block connector 37 and has a hollow cylindrical dispensing tip 42 extending from the body 41, where the needle body 41 terminates in an outturned top end flange 43 which abuts against an end wall 44 of tapered male luer lock outlet nozzle 45 (emphasis added). Claim 4 of the present application requires a monolithic tubular nozzle member and a monolithic nozzle insert engageable with a nozzle-retaining annular shoulder surface within the tubular housing, the nozzle insert having a nonlinear axially extending inner surface defining a passage therethrough with an aperture of reduced dimension adjacent the outlet. This specific structure is not anticipated, taught or suggested by the Miller reference. In particular, the tube 2 of Miller is not monolithic, since it requires connector 37. The tube 2 of Miller does not include an inwardly extending annular shoulder and/or an inner conical nozzle surface for engagement with the nozzle insert as recited in claim 4. The dispensing needle assembly 40 of Miller is not a monolithic nozzle insert as required by claim 4. The dispensing needle assembly 40 of Miller does not have an outwardly extending flange engageable with the inwardly extending shoulder of the monolithic tubular member as recited in claim 4. The dispensing nozzle assembly 40 of Miller does not have a conical external surface extending toward a second end as recited in claim 4. Claim 9 requires similar elements to those pointed out with respect to claim 4 which are not anticipated, taught or rendered obvious by Miller. Claim 14 also requires similar elements to those pointed out with respect to claim 4 which are not anticipated, taught or rendered obvious by

Miller. The Miller reference can not be properly combined with the Keller et al. and/or the Brennan et al. references without destroying the teaching of a multi-part tube inherent in the Miller reference. The Miller reference does not anticipate, teach or suggest a static mixer trapping the nozzle insert against the nozzle-retaining surface as recited in claims 6, 11 and 18, since Miller teaches that the end wall 44 of the tapered male luer locking nozzle is interposed between the flange 43 and the outlet end 50 of the mixing element 48. (See Fig. 4 of Miller and column 4, lines 48-51 and column 5, lines 2-5). The dispensing nozzle assembly 40 of Miller is not interchangeable as recited in claims 15, and new claims 21-22. Therefore, the Miller reference does not anticipate, teach or suggest the present invention as recited in claims 4-22, when taken singular or in any permissible combination with the prior art of record. Reconsideration of the Examiner's rejection of claims 4-20 and consideration of new claims 21-22 is requested.

Claim 1 stands rejected under 35 U.S.C. § 103 as being unpatentable over Brennan et al. in view of Keller et al. Brennan et al. discloses a standard static mixer 16, where the static mixer shroud 20 contains mix elements 26 and a bullet shaped insert 12. (See column 2, lines 18-22) Claim 1 has been amended to recite a monolithic tubular nozzle member having one end for receiving viscous material for passage through the nozzle member, a nozzle tip portion having an inwardly extending annular shoulder with an inner conical nozzle surface and an axially extending main body tubular portion interconnecting said one end and the flange of the nozzle tip portion, the tubular nozzle member having an external surface with radially inwardly stepped reductions in dimension approaching an end of the nozzle tip portion providing guides for selectively cutting variable discharge opening sizes, and a monolithic nozzle insert having an outwardly extending flange adjacent a first end and a conical external surface extending toward a second end, where the annular flange of the nozzle insert is engageable against the annular shoulder of the tubular nozzle member. This specific structural configuration is not anticipated, taught or rendered obvious by

Brennan et al. and/or Keller et al. '150, taken singularly or in any permissible combination. The addition of the Keller et al. reference does not overcome the deficiency of the Brennan et al. reference. In particular, the Keller et al. reference teaches an externally stepped housing, but does not teach a monolithic nozzle insert with an outwardly extending flange engageable with an inwardly extending shoulder of the monolithic tubular nozzle member as required by amended claim 1. As previously indicated, the Miller reference can not be properly combined with either the Brennan et al. reference or the Keller et al. reference, since to do so would destroy the teaching of the multi-part housing inherent in the Miller disclosure. Reconsideration of the Examiner's rejection of claim 1 is respectfully requested.

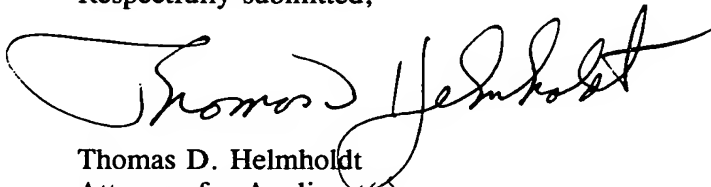
Claims 2 and 3 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Brennan et al. and Keller et al. as applied to claim 1 above, and further in view of Miller. Claim 2 recites that the monolithic nozzle insert further comprises an interchangeable tip portion insertable into the end of the tubular nozzle member. The Brennan et al. reference does not anticipate, teach or suggest an interchangeable tip portion and/or the tip portion extending beyond the end of the tubular nozzle member. The addition of the Keller et al. reference does not overcome this deficiency. The Keller et al. reference does not anticipate teach or suggest an interchangeable tip portion insertable into the end of the tubular nozzle member. The addition of the Miller reference does not overcome the deficiency of the combination of Brennan et al. and Keller et al. The Miller reference does not anticipate, teach or suggest a monolithic nozzle insert including an interchangeable tip portion insertable into the end of the monolithic tubular nozzle member for the reasons given in more detail above with respect to the rejection of claim 1. Furthermore, the Miller reference can not be properly combined with the Brennan et al. and/or the Keller et al. references, since the Miller reference teaches away from the requirement of a monolithic tubular nozzle member and there would be no motivation for those skilled in the art to combine the references in this way. In addition, the proposed combination can

not be properly made, since the combination would destroy the teaching of a multi-part tubular nozzle member inherent to the disclosure of the Miller reference. Reconsideration of the Examiner's rejection of claims 2-3 is requested.

It is respectfully submitted that this Amendment traverses and overcomes all of the Examiner's objections and rejections to the application as originally filed. It is further submitted that this Amendment has antecedent basis in the application as originally filed, including the specification, claims and drawings, and that this Amendment does not add any new subject matter to the application. Reconsideration of the application as amended is requested. It is respectfully submitted that this Amendment places the application in suitable condition for allowance; notice of which is requested.

If the Examiner feels that prosecution of the present application can be expedited by way of an Examiner's amendment, the Examiner is invited to contact the Applicant's attorney at the telephone number listed below.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Thomas D. Helmholdt", written in a cursive style.

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the specification:

Replace paragraph [0031] on page 6 with the following:

In the assembled relation of the various components of the viscous material dispense system, dispense tip 22 is positioned in the aperture 18h in the lower end of the mixer shroud 18 with flange portion 22b seated on shoulder 18i and with the conical lower surface 22d of the dispense tip positioned centrally within the conical lower surface [18c] 20c of the [mixer] air shroud and forming a radially inwardly extending conical extension of the conical surface 18c; insert 16[b] is positioned in the lower nozzle tip end or conical nozzle tip portion 24b of tube member 24 with flange 16b seating on annular shoulder [24c] 24d; the upper mouth end 24a of mix tube 14 is positioned over the lower conical portion 10e of material valve discharge outlet 10b; mixer shroud 18 is positioned telescopically over mix tube 14 with the upper mouth end 18a of the mixer shroud positioned over the upper portion 10f of the discharge outlet 10b of the material valve and with the lower end 24b of tube member 24 positioned in the main body portion 22a of the dispense tip and the lower end 16c of the insert 16 positioned proximate the mouth or discharge opening 22e of the dispense tip; and air shroud 20 is positioned telescopically over the lower end 18f of the main body portion 18d of the mixer shroud with conical surface 20c positioned proximate conical surface 18c and with air inlets 20d positioned proximate the upper ends of the grooves or flutes 18e. An annular elastomeric seal 29 is provided between the upper end 20e of the air shroud and the conforming annular surface of mixer shroud 18.

Add the following paragraphs after paragraph [0034] on page 8:

[0034.1]

A tubular nozzle member or hollow tubular housing 24 has one end for receiving viscous material for passage through the nozzle member. The hollow tubular housing 24 has a first end and a second end for carrying viscous material therebetween, and a nozzle-retaining surface

adjacent one end of the tubular housing. A nozzle insert 16 is engagable with the nozzle-retaining surface within the tubular housing, the nozzle insert having a non-linear axially extending inner surface defining a passage therethrough with an aperture of reduced dimension adjacent an outlet end for discharging a viscous material from the tubular housing through the nozzle insert. The nozzle insert 16 has a first aperture at one end and a second aperture at another end with the first aperture being larger than the second aperture and being disposed opposite from the nozzle-retaining surface of the tubular housing, and a cylindrical passage portion adjacent the second aperture. A static mixer 14 is operably insertable within the hollow tubular housing 24 for trapping the nozzle insert 16 against the nozzle-retaining surface 24d. The nozzle insert 16 has an inner surface with a beveled-angular cut adjacent a first end and has a cylindrical surface portion extending longitudinally at least partially between the first end and a second end of the nozzle insert 16. The nozzle insert 16 has an axially extending passage therethrough with an entry portion of the passage having an angular surface in communication with a cylindrical surface extending along at least a portion of the passage.

In the claims:

1. (Amended) An apparatus for dispensing a viscous material comprising:
a ²⁴ monolithic tubular nozzle member having one end for receiving viscous material for passage through the nozzle member, a nozzle tip portion ^{24a} having ^{24b} an inwardly extending annular shoulder with an inner conical nozzle ^{24d} surface extending from the annular shoulder toward an opposite end of the nozzle member, and an axially extending main body tubular portion interconnecting said one end and the nozzle tip portion, the tubular nozzle member having an external ^{24e} surface with radially inwardly stepped reductions in dimension approaching an

end of the nozzle tip portion providing guides for selectively cutting variable discharge opening sizes; and

[dispensing means] ¹¹⁶ a monolithic nozzle insert having an outwardly ^{16b} extending annular flange adjacent a first end and a conical external surface extending toward a second end, the annular flange of the nozzle insert engageable against the annular shoulder within the tubular nozzle member proximate the nozzle tip portion of the nozzle member and operative for discharging viscous material.

2. (Amended) The apparatus of claim 1, wherein the [dispensing means] monolithic nozzle insert further comprises an interchangeable tip insert insertable into the tubular nozzle member, said tip insert having a smaller end aperture than the nozzle tip portion and extending beyond an end of the nozzle tip portion of the tubular nozzle member.

4. (Amended) An apparatus for dispensing a viscous material comprising:

a ²⁴ monolithic hollow tubular housing having a first end and a second end for carrying viscous material therebetween, and a nozzle-retaining ^{24a} annular shoulder surface adjacent one end of the tubular housing; and

¹⁶ a monolithic nozzle insert engagable with the nozzle-retaining annular shoulder surface within the tubular housing, the nozzle insert having a non-linear axially extending inner surface defining a passage therethrough with an aperture of reduced dimension adjacent an outlet end for discharging a viscous material from the tubular housing through the nozzle insert.

Please cancel claim 7 without prejudice.

9. (Amended) An apparatus for dispensing a viscous material comprising:

a monolithic hollow tubular housing having a first end and a second end for carrying viscous material therebetween, and a nozzle-retaining annular shoulder surface extending radially inwardly adjacent one end of the tubular housing; and

a monolithic nozzle insert having a radially outwardly extending annular flange adjacent a first end, the radially outwardly extending annular flange engageable with the nozzle-retaining annular shoulder surface within the tubular housing, the nozzle insert for discharging a viscous material from the tubular housing through the nozzle insert.

14. (Amended) An apparatus for dispensing a viscous material comprising:

a monolithic tubular member having first and second ends, the second end having an internal insert-retaining annular shoulder surface, and an axially extending portion of the tubular member interconnecting said first and second ends; and

a monolithic nozzle insert engageable within the second end of the tubular member and having an outwardly extending annular flange engageable with the annular shoulder within the tubular member, the nozzle insert extending outwardly beyond the second end of the tubular member for discharging viscous material.

Please cancel claim 19 without prejudice.

Please add the following new claims:

21. (New) The apparatus of claim 4 further comprising the nozzle insert being an interchangeable insert positionable within the second end of the

tubular member against the nozzle-retaining annular shoulder surface, the insert having a smaller aperture at an outer end than the second end of the tubular member.

22. (New) The apparatus of claim 9 further comprising the nozzle insert being an interchangeable insert positionable within the second end of the tubular member against the nozzle-retaining annular shoulder surface, the insert having a smaller aperture at an outer end than the second end of the tubular member.